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REMARKS

Claims 1-18 and 21 pending.

Claims 1-18 and 21 stand rejected.

The present invention is a shaft for light weight golf clubs having alternating layers of straight and angled fibers which is 35-50 percent lighter than conventional shafts while providing the same outer diameter and the same characteristics as conventional shafts such as flexural rigidity, flexural strength, torsional rigidity, torsional strength and crushing strength.

Claim rejections - 35 U.S.C. §103

Claims 1-2, 5-6, 9-10, 13-14 and 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Cheng in view of JP 6-114131, further in view of Kusumoto, and still further in view of Jackson.

In order to establish a case of *prima facie* obviousness, three criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally the prior art reference(s) must teach or suggest all the claim limitations. MPEP §2142.

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It is the Applicants' position that the Examiner has not established a *prima facie* case of obviousness, and therefore, the golf club shaft structure of Fig. 1(b) is neither anticipated nor rendered obvious by the cited prior art.

The Examiner appears to have relied upon a teaching of Cheng which is not actually present in the disclosure therein. The Examiner relies upon Cheng for teaching a first angled layer, a second angled layer, and a straight layer. However, the Examiner contends that the reference teaches **successively** bonding layers 22a, 22b, and 22c.

The Examiner is directed to Cheng, column 2, lines 6-11, which state:

It should be noted, however, that the fibers of successive base rod layers, such as the outer layers, may be parallel to one another. Other layer combinations are also possible. For example, the first 5 to 10 layers may be alternating angled layers such as layers 22b and 22c, and the next 5 to 10 layers may be parallel to the longitudinal axis such as layer 22a.

Clearly, Cheng fails to teach that the layers are formed as 22a, 22b, 22c, 22a, 22b, 22c, 22a, 22b, 22c ... as is suggested by the Examiner. As a matter of fact, by pointing out the example of having the angled layers first, followed by 5 to 10 straight layers, the Cheng reference actually **teaches away from** the instant invention.

The Examiner admits that the Cheng primary reference fails to teach that the layers extend over a length of a shaft. Specifically, Cheng, at column 3, lines 17-19, states, "...and the remainder 25 of the shaft is simply the relatively thin walled base rod 12." Therefore, Cheng makes it clear that the layered section does not cover the entire length of the shaft.

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Cheng actually teaches that the only way to increase the strength of a conventional shaft at the shaft/club head hosel junction is to increase the wall thickness of the entire shaft, thereby increasing the weight and stiffness of the shaft to an undesirable level.

It has been well established that a proposed modification to a reference cannot render the prior art unsatisfactory for its intended purpose. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Furthermore, the proposed modification cannot change the principle of operation of a reference. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

In the instant case, the primary reference itself teaches of the undesirability of the modification which the Examiner proposes. More specifically, the Examiner relies upon JP 6-114131 for disclosing each layer extending over a length of a shaft. However, the primary Cheng reference clearly states that such a modification would either render the Cheng shaft unsatisfactory for its intended purpose and / or change the principle of operation of the Cheng shaft. Therefore, there cannot be any modification to change the teaching of Cheng to an object repugnant to the disclosure therein.

"In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teaching would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly

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in the references themselves or in the knowledge generally available to one of ordinary skill in the art. It is well established that the Examiner may not employ hindsight reconstruction of the claimed invention by merely picking and choosing various teachings from a plurality of references. There must be some motivation to choose each of the teachings from the various references.

Assuming, *arguendo*, that one may choose the appropriate particular selection of the layers 22a, 22b, and 22c to arrive at the layered structure instantly claimed, in the instant case, there is no motivation for these layers 22a, 22b, and 22c to cover the length of the shaft. As stated above, Cheng actually strongly and expressly teaches away from making such a modification.

Therefore, Applicants respectfully submit that the cited references, taken for all then fairly teach one of ordinary skill in the art, neither teach nor fairly suggest the golf club shaft as instantly claimed in amended claim 1. Consequently, the present invention as claimed in independent claim 1 is nonobvious in light of the cited references.

Applicants respectfully submit that if an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. MPEP § 2143.03. Dependent claims 2-18 being dependent upon and further limiting independent claim 1, should also be allowable for that reason, as well as for the additional recitations each contain.

For the reasons stated above, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-16 and 18 as being unpatentable under 35 U.S.C. § 103(a).

Claims 17 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cheng in view of JP 6-114131, further in view of Kusumoto,

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further in view of Jackson as applied to claims 1-16 and 18 above, still further in view of Cecka.

Applicants respectfully submit that the Cecka reference fails to overcome the deficiencies of the primary reference, with respect to claim 1, as noted above. Therefore, if an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. MPEP § 2143.03. Dependent claim 17, being dependent upon and further limiting independent claim 1, should also be allowable for that reason, as well as for the additional recitations it contains.

Furthermore, claim 21 should be found allowable for the same reasons described above that claim 1 should be found allowable. Specifically, *inter alia*, the references fail to teach or fairly suggest that the outer covering covers the entire length of the shaft.

Additionally, the Examiner relies on Kusumoto in teaching a second angled layer having a thickness of from 0.04 to .010 mm. Specifically, Kusumoto teaches using fiber sheets having a thickness of not larger than 0.06 mm. However, along the same arguments as those above, there is no motivation to modify the Cheng shaft to use these thicknesses. Moreover, Cheng teaches a flare section where the outer covering, including any "second angled layer" ends. Therefore, it is Applicant's position that modifying the Cheng reference to include a second angled layer of a specific thickness going along the entire shaft length can only be done through improper hindsight claim reconstruction.

For the totality of the reasons described above, Applicants respectfully submit that the claims, as amended, place the application in condition for allowance. Reconsideration and withdrawal of the outstanding rejections under 35 USC 103(a) is respectfully requested.

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Conclusion

In view of the foregoing, the application is now believed to be in proper form for allowance. Early notice to that end is earnestly solicited.

The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 13-4550.

If the Examiner believes that a telephone conference would be of value, he is requested to call the undersigned counsel at the number listed below.

Respectfully Submitted,



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